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Report of the Secretary-General

Summary

The present report was prepared at the request of the Statistical Commission at its fortieth session (see E/2009/24, chap. I.A). The report provides an overview of recent activities in industrial statistics undertaken in response to requests of the Commission. In particular, it describes the revision of the *International Recommendations for the Index of Industrial Production*, which is presented to the Commission for approval. The Commission is also invited to take note of the activities for the implementation of international recommendations related to industrial statistics and to endorse those efforts.

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I. Activities carried out in response to requests of the Commission

A. Expert Group on Industrial Statistics

1. In 2005, the United Nations Statistics Division established an Expert Group on Industrial Statistics to assist and provide guidance in reviewing the work programme on industrial statistics and, in particular, to provide guidance for the revision of the *International Recommendations for Industrial Statistics*,[1] last revised in 1983, the revision of the manual on *Index Numbers of Industrial Production*,[2] last revised in 1950, and the revision of the United Nations list of industrial products, last revised in 1973.

2. The Expert Group completed its work on the United Nations list of industrial products in 2006 and its work on the *International Recommendations for Industrial Statistics* in 2008. The *Recommendations* were endorsed by the Statistical Commission in 2008.

3. The Expert Group met from 15 to 17 July 2008, in New York. The main purpose of the meeting was: to review the revised draft of the *International Recommendations for the Index of Industrial Production 2008*; provide additional guidance on a number of issues that emerged during the drafting of the document; and amend the document for submission to and endorsement by the Statistical Commission. The final discussion at the meeting focused on a smaller set of recommendations designed to ensure consistency in the calculation of the index and reflect best practices that had emerged in countries over the previous years.

4. At its meeting in 2008, the Expert Group also reviewed proposals for a quality framework for industrial statistics and reviewed a prototype for a "knowledge base on economic statistics: methods and country practices". The feedback from the Expert Group was used to further develop the two projects.

5. The complete text of the recommendations and conclusions of the meeting of the Expert Group on Industrial Statistics is available on the website of the United Nations Statistics Division (http://unstats.un.org/unsd/industry/meetings/eg2008/ac158-2.asp).

B. Revision of the *International Recommendations for the Index of Industrial Production*

1. Background

6. The Index of Industrial Production (IIP) is an important short-term economic indicator in official statistics. It is an important indicator in its own right as well as being used in comparison to or conjunction with other short-term indicators to assess the performance of an economy. In some countries, IIP is also a key input for calculating volume measures as part of the compilation of the quarterly national accounts.

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[1] Statistical Papers, No. 48, Rev.1 (United Nations publication, Sales No. E.83.XVII.8).

[2] Studies in Methods, No. 1 (United Nations publication, Sales No. E.50.XVII.4).

7. Production indices for the industrial sector are used as a main short-term economic indicator because of the impact that fluctuations in the level of industrial activity have on the rest of the economy in many countries. The availability of production indices on a monthly basis and the strong relationship between changes in the level of industrial production and economic cycles facilitate the use of production indices as a reference series in determining or forecasting turning points in business cycles. The advantage of the production index compared to other indicators is its combination of high frequency, fast availability (for example, relative to the gross domestic product (GDP)) and its detailed activity breakdown.

8. The IIP measures the change of the volume of goods or services produced over time to describe short-term changes in value added. Gross output measures such as value of production or turnover data are more commonly used, since it is difficult to collect high frequency data to accurately measure value added. Because the IIP is a volume index, it is not influenced by price fluctuations.

9. The IIP has a wide range of users who assess the most recent economic situation of countries and the global and regional economies through aggregations for the purpose of undertaking international comparisons.

10. The *International Recommendations for the Index of Industrial Production* is intended for compilers and users of indices of industrial production. It assists compilers in producing index numbers so that they can serve as reliable international comparisons of economic performance and behaviour, using the best international practices. The publication also assists countries that plan to set up a more comprehensive system of volume measures not only by providing the methodological foundations for the index number compilation, but also by giving practical guidance on individual steps and elements of the compilation process.

11. It is recognized that, owing to practical constraints, some of the recommendations in the publication may not be immediately attainable by all statistical offices and therefore should serve as guideposts for agencies, as they revise and improve their IIP programmes.

12. The publication also serves the needs of users by making them aware of the methods employed by statistical offices to compile the indices. In addition, it discusses potential IIP calculation errors, biases and incompatibilities between different approaches, so that users can properly interpret the results. Users are therefore encouraged to consult metadata information on index number calculation methods used in different countries, to form a better judgement of the comparability of the indices. The United Nations Statistics Division has issued a publication, *Country practices for the collection and calculation of the index of industrial production*,[3] which can be used in this way.

2. Revision process

13. The publication, which is provided as a background document to the Commission, is a revision of the original *Index Numbers of Industrial Production*[2] manual published by the United Nations in 1950. It takes into account methodological developments in the field of index number calculation that have

[3] *Country practices for the collection and calculation of the index of industrial production* (ESA/STAT/2008/8).

emerged over the past decades and describes new recommended methodological standards for the compilation of index numbers of industrial production.

14. This revision was carried out at the request of the Statistical Commission.[4] The general approach to the revision, including an identification and initial discussion of the main areas of change was discussed at Expert Group meetings in 2005 and 2007.

15. The revised recommendations take into account other recently revised statistical standards and recommendations and contribute to a coherent set of international guidelines, including the *System of National Accounts, 2008*, the International Standard Industrial Classification of All Economic Activities, Revision 4 (ISIC), the Central Product Classification, Version 2, the *International Recommendations for Industrial Statistics 2008*, the *Producer Price Index Manual: Theory and Practice* and the *Consumer Price Index Manual: Theory and Practice*.

16. Additional input to the drafting of the document, in particular with respect to the recommendations concerning the indicators to be used for the measurement of individual industries (shown in part II of the publication), was obtained through a survey on country practices, as mentioned in paragraph 12 above.

17. Based on the guidance received, a first draft of the publication was prepared by the United Nations Statistics Division and presented at a meeting of the Expert Group in 2008. Additional modifications to the draft recommendations were made as a result of discussions at that meeting.

18. The first public draft of the publication was the subject of a worldwide consultation in early 2009; 42 countries and organizations provided additional input for the finalization of the *International Recommendations for the Index of Industrial Production*.

19. The final version of the publication is now available to the Commission as a background document.

3. Coverage

20. The revised publication draws on a wide range of experience and expertise, based on consultations with a large number of potential users. They outline practical and appropriate measurement methods, issues and lessons from recent theoretical and practical work in the area.

21. The revised publication was developed using a slightly different approach, compared to the 1950 version. In addition to key IIP theory and concepts, it also provides practical guidance, via the use of data examples, to demonstrate statistical practice. A separate chapter provides guidance on methods and approaches at a detailed industry level in order to assist countries in producing high-quality short-term economic indicators that are also internationally comparable.

22. The original methodological publication on index numbers of industrial production was published in 1950 and has not been revised since. However, theory on index numbers has progressed and the changes in methodology had to be incorporated into a revised version of that publication, so that all countries could

[4] The revision of the publication was placed on the work programme of the United Nations Statistics Division in 2004 (see E/CN.3/2006/3, para. 14). Work commenced in 2005 and the Statistical Commission endorsed the work undertaken on IIP by the Division in 2006 and 2008.

take a common approach to the collection and calculation of these important indicators.

23. The changes in methodology are reflected in the revised publication; they include the shift towards using deflation methods rather than volume aggregates as the more reliable method for the majority of industries, which also addresses the issue of quality adjustment through the use of better price index deflators; the more frequent updating of the base weights; the use of chain-linking index number series rather than series recalculation; the use of net value added at basic prices as the new weighting variable; and stricter requirements for international data reporting.

24. The updated methodology described in the revised publication, used in conjunction with the *Compilation Manual for an Index of Services Production*, published by the Organization for Economic Cooperation and Development, now provides assistance to data producers in the compilation of volume indices for the majority of goods and services producing industries.

4. Main changes

25. The changes in the revised document are the result of changes introduced in the recent revisions of related standards for economic statistics and of changes in methodology, based on best practices observed in Member States. This is reflected, in particular, in the change of the scope of the IIP and in the changes in calculation methods, index weighting practices, linking and rebasing issues.

26. The current scope of the revised publications is defined in terms of the International Standard of Industrial Classification, Revision 4, namely the scope of the industrial sector is defined to cover sections B (mining and quarrying), C (manufacturing), D (electricity, gas steam and air conditioning supply) and E (water collection, treatment and supply, sewage, waste collection and remediation activities). This is a reflection of the change in scope of "industrial statistics", as defined in the *International Recommendations for Industrial Statistics 2008*, and constitutes a change from the original 1950 scope, which was restricted to mining and quarrying, manufacturing, and electricity and gas.

27. The recommendations for calculation methods, index weighting practices and linking and rebasing of index number series have changed from previous practices. Historically, the production indices for the industrial sector were compiled using a fixed weight approach, with weights updated at five-year intervals. However, new methods and approaches have been developed over the last several decades to address the deficiencies of these types of indices. The chain-linked approach, with annually updated weights, has been the preferred approach in recent years and is the recommended method presented in the revised publication.

5. Conclusion

28. The Commission is invited to adopt part I of the *International Recommendations for the Index of Industrial Production 2010*, containing the recommendations for statistical units, classifications, sources and methods; to endorse part II, containing guidance on quality indicators and variables by industry for IIP calculation; and to recommend to Member States that they use and adhere to the practices described therein for the production of comparable industrial production indices.

C. Technical cooperation activities

29. The implementation of the revised *International Recommendations for Industrial Statistics 2008* was an important element of technical cooperation activities in the past year.

30. The Statistics Division continued its programme of workshops on manufacturing statistics, with a third workshop for Latin American countries. Like the previous workshops, it followed the elements of the statistical production process framework and covered in detail techniques for data collection on manufacturing statistics.

31. A similar series of workshops was also initiated for the African countries. A first exploratory workshop held in Lusaka was attended by 34 representatives from 26 countries and organizations. The main goal of the series of workshops is to enable countries to produce comprehensive and comparable statistics on manufacturing, in accordance with the *International Recommendations for Industrial Statistics 2008*.

32. In the future, the scope of the Statistics Division's technical assistance activities will be broadened to include procedures for the compilation of indices of industrial production.

33. The revised recommendations have also been used in the technical assistance programmes of the United Nations Industrial Development Organization (UNIDO). A new handbook with a model questionnaire using recommended data items of the *International Recommendations for Industrial Statistics 2008* has been prepared. The implementation of the 2008 version of the publication has been the main objective of all ongoing and pipeline projects undertaken by UNIDO in the field of industrial statistics.

34. In 2008 and 2009, UNIDO conducted four training workshops on industrial statistics under its regular programme and project activities for Asian and African countries, at which about 85 statisticians were trained in the new recommendations for industrial statistics. Two training workshops were conducted in cooperation with the Arab Institute for Training and Research in Statistics and the Statistical Institute for Asia and the Pacific. Individual country workshops were conducted in Dar es Salaam, United Republic of Tanzania, and Bangkok.

II. Data collection programme on industrial statistics

35. Data collection activities for industrial statistics continue in the Statistics Division and UNIDO, following the agreed division of labour between the two agencies.

36. The data collection on industrial commodity production statistics at the United Nations Statistics Division includes published data on the production of about 620 commodities in about 200 countries and territories. The data are collected and published in terms of quantities produced and the value of the produced commodities, following the guidelines approved by the Expert Group on Industrial Statistics in 2005. Data for the 2007 edition of the *Industrial Commodity Statistics Yearbook* are also available online on the UNdata website.

37. In addition, a data collection on monthly production continues for a selected list of commodities and for construction. The results of this data collection are published in the *Monthly Bulletin of Statistics*.

38. The data collection on index numbers of industrial production continues to provide monthly, quarterly and annual data, which are published in the *Monthly Bulletin of Statistics* and in the *Statistical Yearbook*. A growing number of countries are able to provide current index number data in terms of the International Standard of Industrial Classification, Revision 4. Consequently, the Statistics Division is preparing the changeover to the new classification for the calculation of regional and world index numbers.

39. The work on index numbers of industrial production is also part a broader effort to collect and publish high frequency indicators to monitor economies worldwide. While IIP is just one of the indicators in the proposed high frequency indicator template, similar data collection and processing techniques may be used to start the broader programme of monitoring a larger set of indicators.

40. The "Knowledge base on economic statistics — methods and country practices", which had been proposed to the Commission in 2008,[5] has been further developed, in cooperation with other agencies and with the support of many Member States. The knowledge base now holds a significant amount of information related to various aspects of basic economic statistics, covering international recommendations, guidelines and country practices.

41. The knowledge base was made available to the general public in September 2009. Updating the knowledge base with relevant documents, especially on methods and country practices, will remain part of the work programme of the United Nations Statistics Division, including the programme on industrial statistics.

[5] See E/2008/24, decision 39/108, para. (d).